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THE THIRD SPECIMEN OF THE GHOST PIPEFISH, *SOLENOSTOMUS PAEGNIUS* JORDAN & THOMPSON, FROM TANABE BAY[1)]

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With 1 Text-figure

In the end of January, 1966, I happened to be favoured with a chance to obtain a single specimen of a very rare ghost pipefish which was collected from among sea weeds stranded on the northern beach of the laboratory by Dr. R. BIERI who was then staying at the laboratory. Examining closely this specimen, it was identified as *Solenostomus paegnius* JORDAN & THOMPSON by means of the following characters: much deeper snout, form of the dorsal edge of the snout, serrated ridges on head, and shorter caudal peduncle. So far as I am aware, *S. paegnius* was described on a single specimen which was collected in Sagami Bay, near Misaki, Japan. Thus I thought at that time the specimen in my hand might be the second specimen of the species. Recently, however, I heard from Dr. T. TOKIOKA of the laboratory that Dr. D.F. MCMICHAEL of the Australian Museum referred to the second specimen of this species when he presented his paper on "Marine Park in Australia" at the meeting of the special symposium No. 1 of the Eleventh Pacific Science Congress on September 4, 1966 at Inuyama and showed a colour slide of that ghost pipefish. Then, the present specimen must be the third specimen of *S. paegnius*.

Although JORDAN and THOMPSON mentioned in their original description that the type specimen from Misaki was badly shrunk from immersion in strong alcohol, the present specimen was quite in a fresh and perfect state and yet it showed a strong concavity on both the back and the belly which was not regarded by JORDAN and THOMPSON as a significant character for this species. This particuler body form seems to be the most remarkable characteristic of this species. Here in this paper, the characteristic features of this ghost pipefish are given together with its fresh coloration and a lateral aspect of the fish is presented.

I am very grateful to Dr. R. BIERI of the Antiock College, U.S.A. for his kindness in offering me this important specimen. Also I wish to express my hearty thanks to Prof. K. MATSUBARA and Dr. T. IWAI of the Fisheries Institute of Kyoto University

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for their valuable advices indispensable for the present paper and to Prof. H. UTINOMI and Dr. T. TOKIOKA of the Seto Marine Biological Laboratory for their kindness in reading the manuscript.

Solenostomus paegnius JORDAN & THOMPSON

(Japanese name: *Nokogiri-fûrai-uo*)

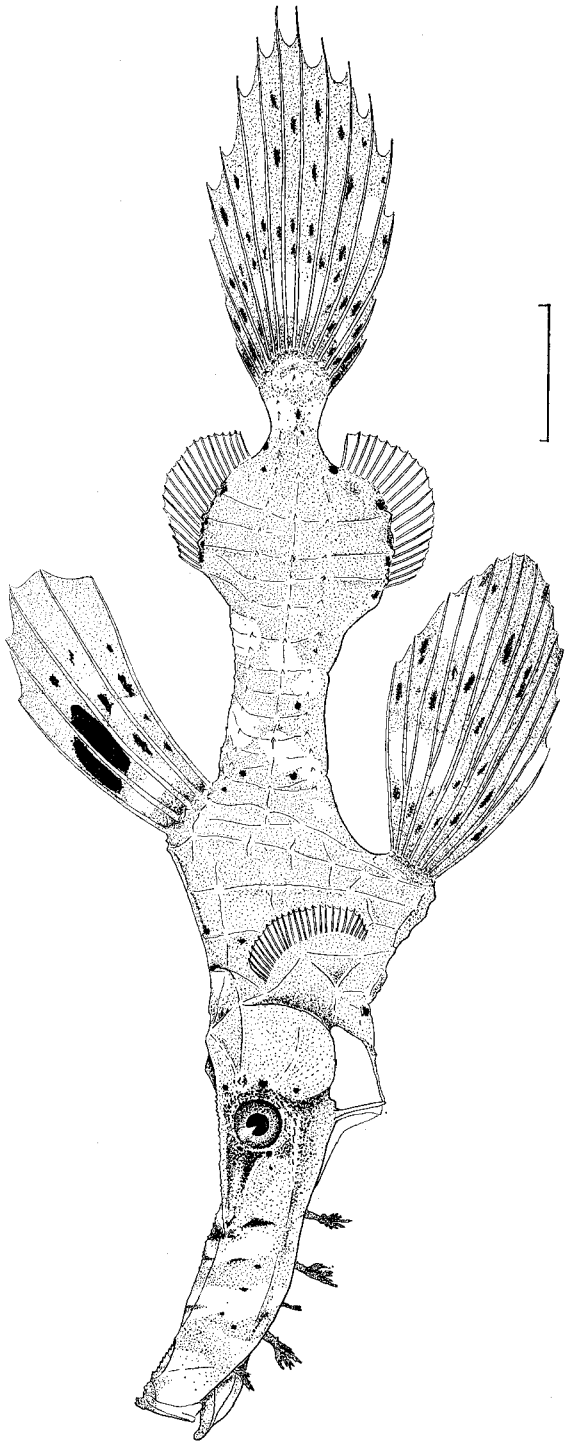
(Text-figure 1)

One male specimen, 102 mm in total length, collected from the northern beach of the laboratory on January 28, 1966, was studied.

Dorsal rays V-20; anal rays 19; pectoral rays 26; pelvic rays 8; caudal rays 16. Head 2.41; body depth at base of pelvics 4.38; snout 3.68; all in body length. Depth of snout at middle 3.17; maxillary 4.75; both in snout length. Eye diameter 8.28; interorbital space 11.60; length of caudal peduncle, from last anal ray to middle caudal ray, 3.87; minimum depth of caudal peduncle 8.28; all in head length.

Body elongate and compressed, bases of first dorsal, second dorsal, pelvics and anal are noticeably convex forming large concavity on both dorsal and ventral edge of middle part of body; distance from anterior margin of eye to base of first dorsal fin greater than length of snout; snout very deep, its depth nearly equal to the postorbital length of head; dorsal profile of snout rather strongly curved upwards anteriorly and posteriorly, ventral profile evenly arched; upper edge of vomer well serrate, blunt serrations on middle and posterior portions of upper edge of mesoethmoid; upper edge of frontal and preopercle also serrate sharply; anterior, upper and posterior edges of orbit much roughened; lower margin of snout uniformly smooth, with five skinny flaps. Spinous dorsal high, the third spine the longest 3.68 in body length, its tip reaching centre of second dorsal base; distance between first and second dorsal 4.73 in body length; height of second dorsal equal to anal and 7.25, pectoral fin length 11.60, both in head length; pelvics very large, closely in contact with each other at the base, the fourth ray the longest 3.08 in body length, its tip reaching centre of anal fin base; middle caudal ray 2.84 in body length.

Fresh body colour deep red, with eight white blotches (smaller than diameter of eye) on nape, trunk and caudal peduncle, and with several tiny black spots on nape, mid trunk and base of soft dorsal and anal; snout bright red with large irregular white patterns roughly forming two or three bands; skinny flaps on lower edge of snout deep red; iris deep purplish red; first dorsal dark red, with a large black blotch on the membrane between the first and the third spines, besides three large white blotches and several small black spots; ground colour of pelvics similar to that of first dorsal with three large white blotches and numerous small black spots; pectorals pale; second dorsal and anal pale, slightly pinkish distally; caudal brick red with a



Text-figure 1. Lateral aspect of *Solenostomus paegnius* Jordan & Thompson. The scale shows 10 mm.

large white blotch on basal part, and with numerous small black spots throughout the fin.

After ten month preservation, the head and body turned uniformly to pale yellowish, leaving three small blackish brown spots behind eye, two above pectoral fin, three on mid trunk, and five on caudal peduncle; snout pale or rather transparent, with seven small dark spots on its side; skinny flaps on lower edge of snout yellow; iris yellowish brown; first dorsal pale basally, yellow distally, with a large black blotch on the membrane between first and third spines, and with several small black spots; pelvics yellowish with several small black blotches; pectoral, second dorsal and anal fins pale; caudal yellowish marginally with numerous small black blotches.

This fish may be an inhabitant of the sargassum zone and take small crustaceans for its regular baits, since a small littoral shrimp, *Palaemon* sp., was found in its siphonate part of the snout.

P. S.—On the morning of January 5, 1967, Mr. H. Tanase of the laboratory aquarium collected three specimens of another ghost pipefish, *Solenostomus paradoxus* (PALLAS), stranded on the northern beach of the laboratory. They were all female and found killed by the cold just before. So far as I am aware, no mention has been made on the colouration of very fresh specimen of this species, which seemingly differs somewhat from that already known for the species.

The colouration of the present specimens is: Ground colour of body whitish, with large irregular red patterns densely which make the body reddish as a whole; snout pale and partly translucent, with seven to ten transverse red bars set obliquely; first dorsal red, faint basally, with a large black blotch on the membrane between the first and the third spines; second dorsal, pectoral and anal fins pale; pelvics light red; caudal red, variable in shade; iris blood red.

It is not impossible that the above-mentioned colouration represents one of the local colour variations of the species, but not the general colouration of very fresh specimens of the species.

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